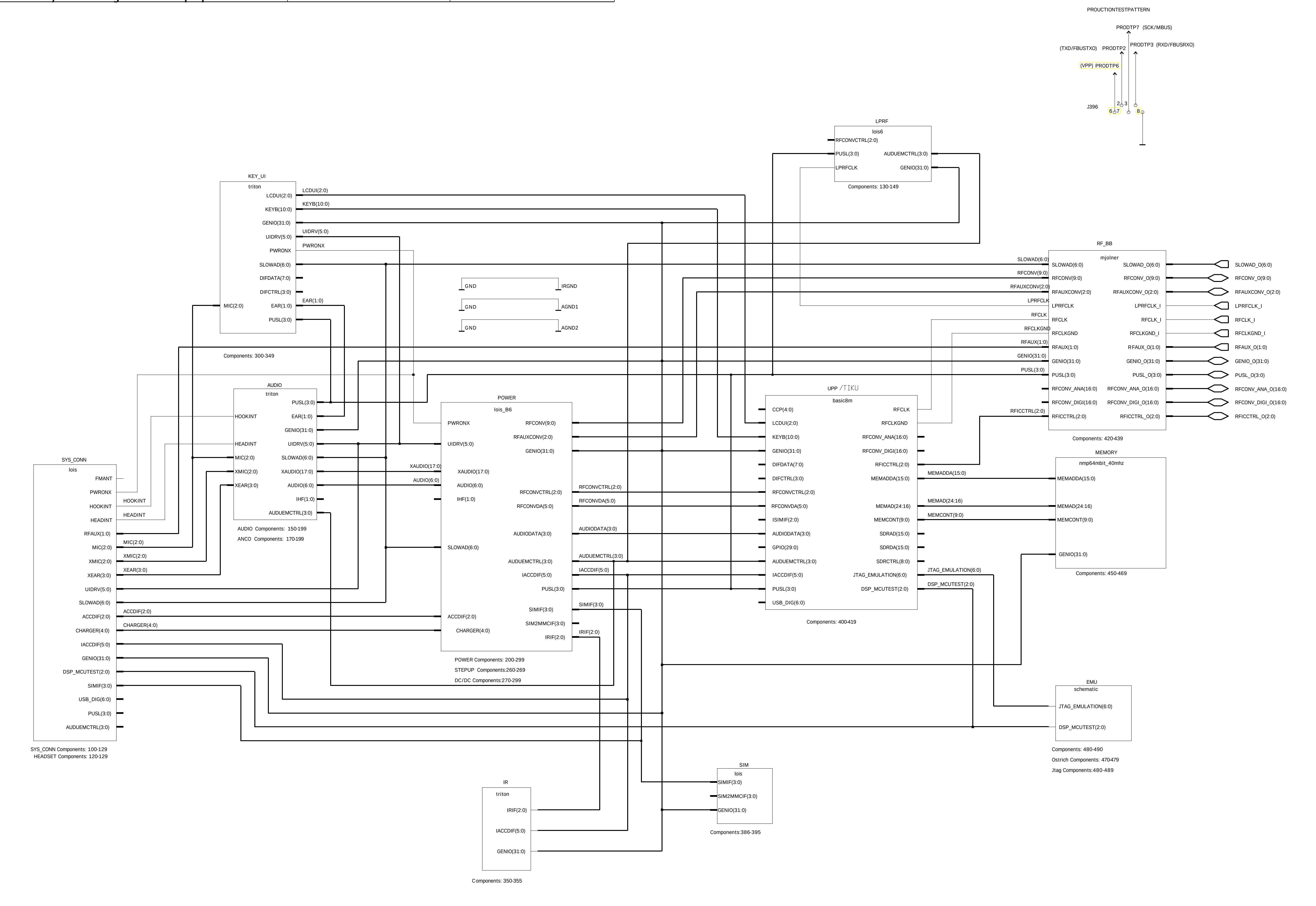
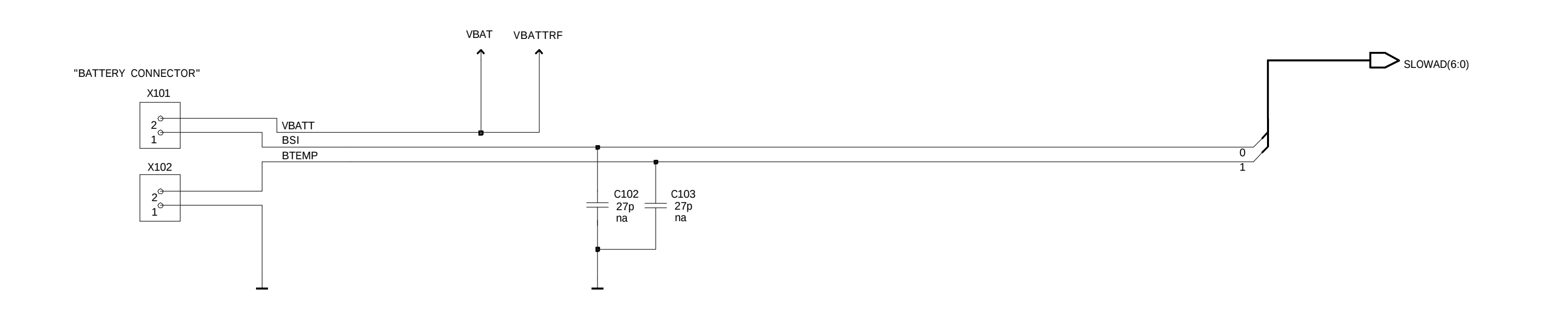
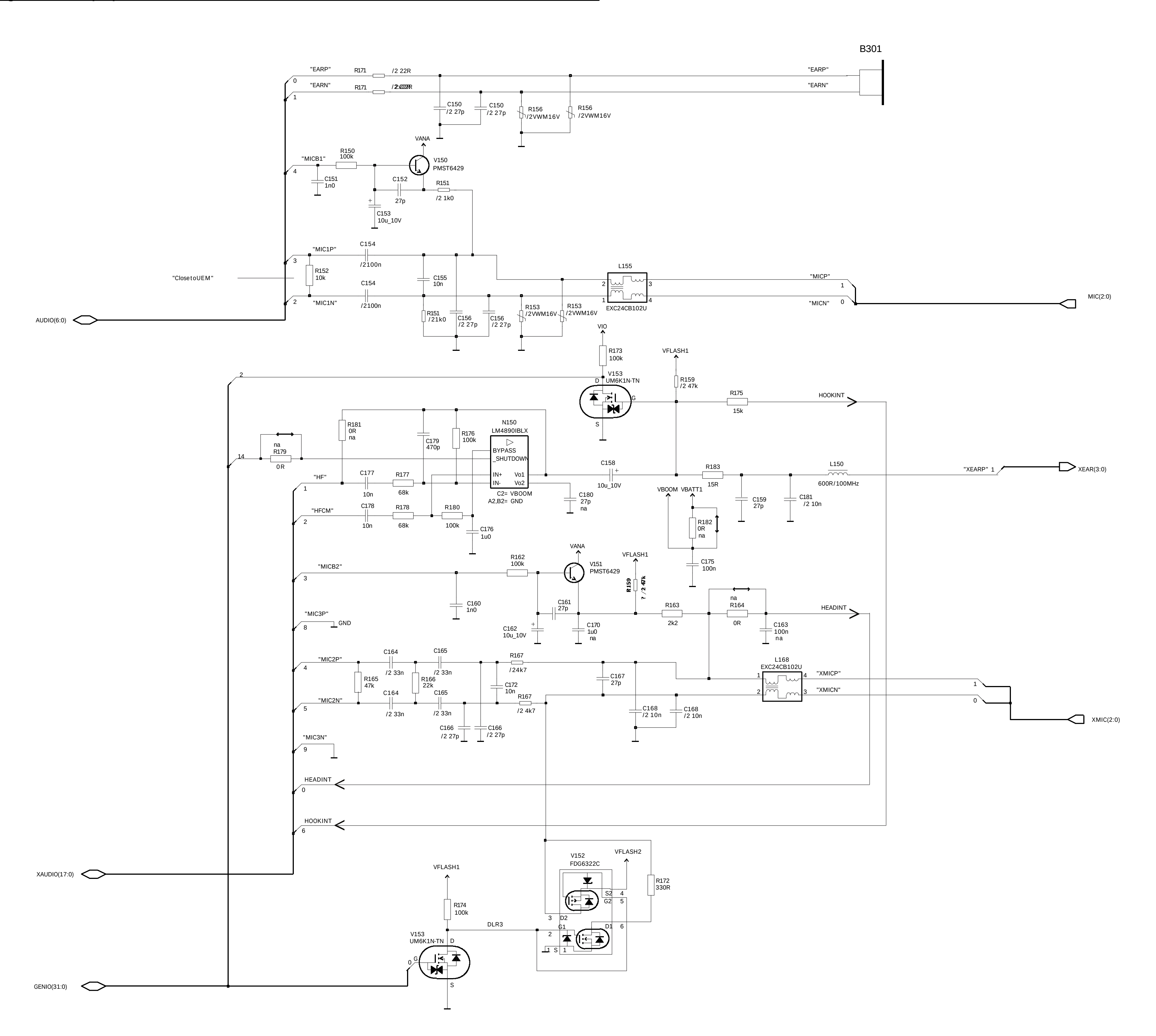


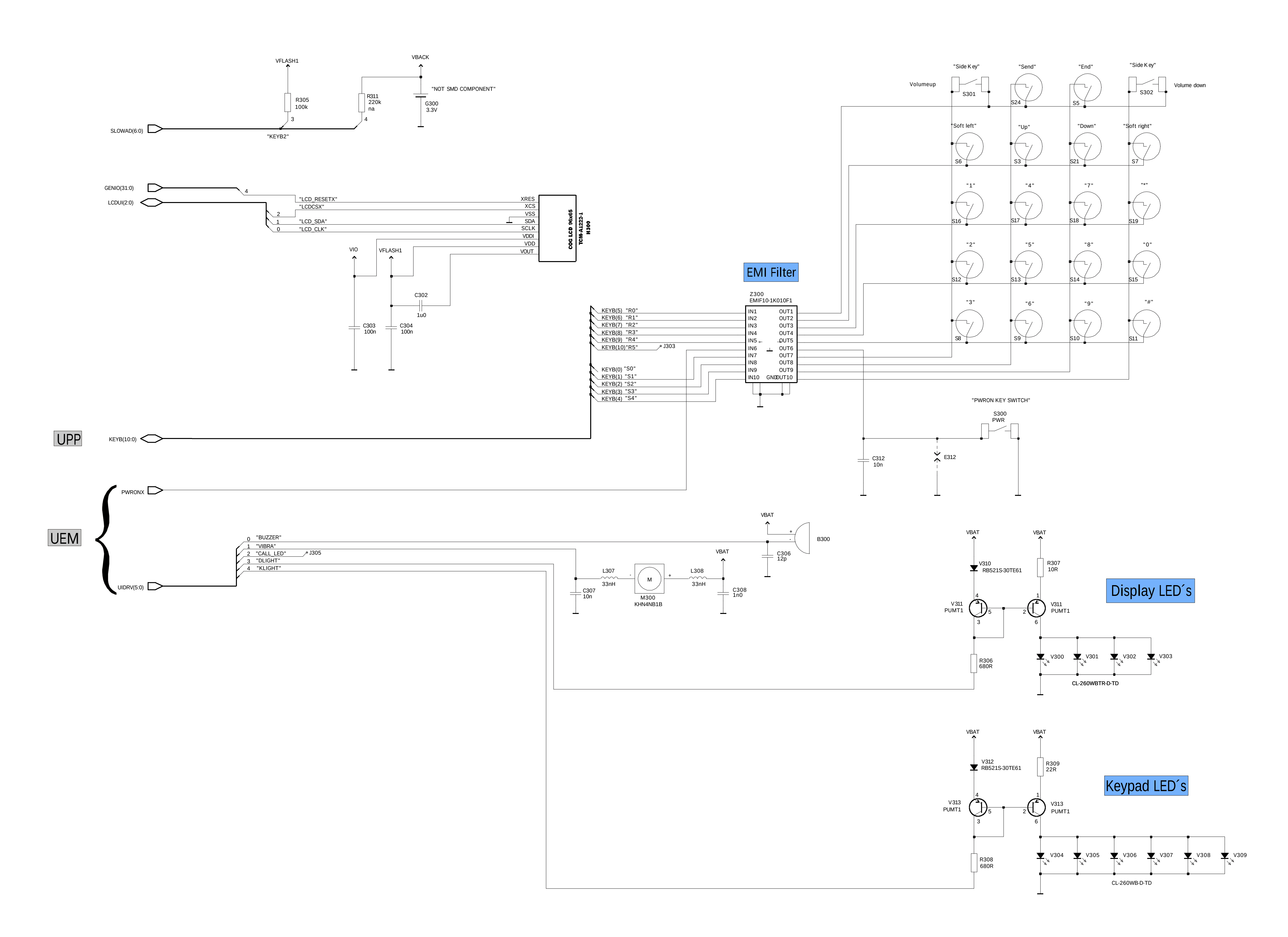
PROUCTIONTESTPATTERN
PRODTP7 (SCK/MBUS)
PRODTP3 (RXD/FBUSRX0)
(TXD/FBUSTX0) PRODTP2
(VPP) PRODTP6
J396
LPRF
lois6
RFCONVCTRL(2:0)
PUSL(3:0)
AUDUEMCTRL(3:0)
LPRFCLK
GENIO(31:0)
Components: 130-149
KEY_UI
triton
LCDUI(2:0)
KEYB(10:0)
GENIO(31:0)
UIDRV(5:0)
PWRONX
SLOWAD(6:0)
DIFDATA(7:0)
DIFCTRL(3:0)
MIC(2:0)
EAR(1:0)
PUSL(3:0)
Components: 300-349
GND
IRGND
AGND1
AGND2
RF_BB
mjolner
SLOWAD(6:0)
SLOWAD_O(6:0)
RFCONV(9:0)
RFCONV_O(9:0)
RFAUXCONV(2:0)
RFAUXCONV_O(2:0)
LPRFCLK
LPRFCLK_I
RFCLK
RFCLK_I
RFCLKGND
RFCLKGND_I
RFAUX(1:0)
RFAUX_O(1:0)
GENIO(31:0)
GENIO_O(31:0)
PUSL(3:0)
PUSL_O(3:0)
RFCONV_ANA(16:0)
RFCONV_ANA_O(16:0)
RFCONV_DIGI(16:0)
RFCONV_DIGI_O(16:0)
RFICCTRL(2:0)
RFICCTRL_O(2:0)
Components: 420-439
AUDIO
triton
PUSL(3:0)
HOOKINT
EAR(1:0)
GENIO(31:0)
HEADINT
UIDRV(5:0)
MIC(2:0)
SLOWAD(6:0)
XMIC(2:0)
XAUDIO(17:0)
XEAR(3:0)
AUDIO(6:0)
IHF(1:0)
AUDUEMCTRL(3:0)
AUDIO Components: 150-199
ANCO Components: 170-199
POWER
lois_B6
PWRONX
RFCONV(9:0)
RFAUXCONV(2:0)
GENIO(31:0)
RFCONVCTRL(2:0)
RFCONVDA(5:0)
AUDIODATA(3:0)
SLOWAD(6:0)
AUDUEMCTRL(3:0)
IACCDIF(5:0)
PUSL(3:0)
SIMIF(3:0)
SIM2MMCIF(3:0)
ACCDIF(2:0)
CHARGER(4:0)
IRIF(2:0)
POWER Components: 200-299
STEPUP Components:260-269
DC/DC Components:270-299
UPP /TIKU
basic8m
CCP(4:0)
RFCLK
LCDUI(2:0)
RFCLKGND
KEYB(10:0)
RFCONV_ANA(16:0)
RFCONV_DIGI(16:0)
DIFDATA(7:0)
RFICCTRL(2:0)
DIFCTRL(3:0)
MEMADDA(15:0)
ISIMIF(2:0)
MEMAD(24:16)
MEMCONT(9:0)
SDRAD(15:0)
GPIO(29:0)
SDRDA(15:0)
SDRCTRL(8:0)
JTAG_EMULATION(6:0)
DSP_MCUTEST(2:0)
USB_DIG(6:0)
Components: 400-419
MEMORY
nmp64mbit_40mhz
MEMADDA(15:0)
MEMAD(24:16)
MEMCONT(9:0)
GENIO(31:0)
Components: 450-469
SYS_CONN
lois
FMANT
PWRONX
HOOKINT
HEADINT
RFAUX(1:0)
MIC(2:0)
XMIC(2:0)
XEAR(3:0)
UIDRV(5:0)
SLOWAD(6:0)
ACCDIF(2:0)
CHARGER(4:0)
IACCDIF(5:0)
GENIO(31:0)
DSP_MCUTEST(2:0)
SIMIF(3:0)
USB_DIG(6:0)
PUSL(3:0)
AUDUEMCTRL(3:0)
SYS_CONN Components: 100-129
HEADSET Components: 120-129
EMU
schematic
JTAG_EMULATION(6:0)
DSP_MCUTEST(2:0)
Components: 480-490
Ostrich Components: 470-479
Jtag Components:480-489
SIM
lois
SIMIF(3:0)
SIM2MMCIF(3:0)
GENIO(31:0)
Components:386-395
IR
triton
IRIF(2:0)
IACCDIF(5:0)
GENIO(31:0)
Components: 350-355



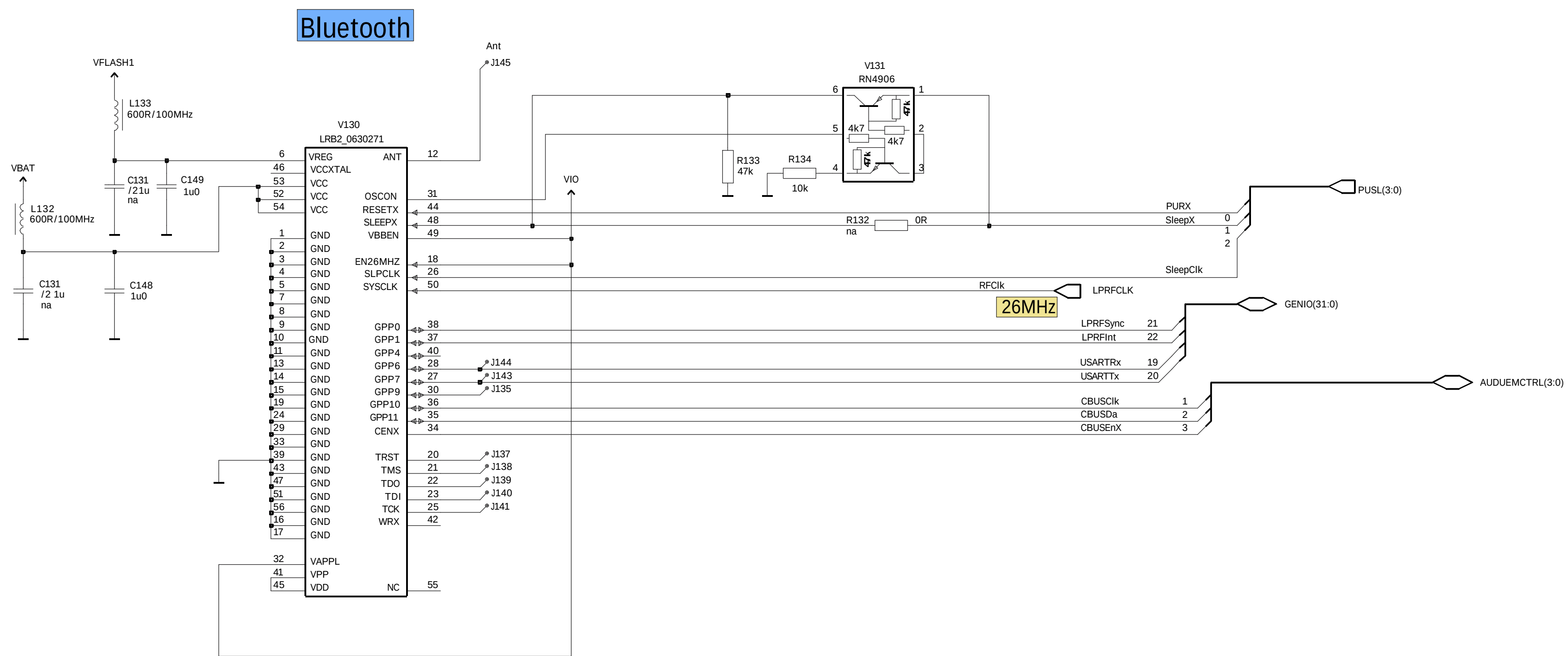
F100
1.5A
L100
42R/100MHz
V101
1PMT16AT3
C107
1n0
"VCHARIN" 0
"GND" 2
"PWMO" 1
CHARGER(4:0)
PRODTP2
R100
/2 47R
C104
27p
"FBUSTXO"
"FBUSRXO"
PRODTP3
R104
/2 47R
C105
27p
R102
220k
ACCDIF(2:0)
R107
/2 2k2
C108
1n0
PRODTP1
SGND
PRODTP5
CHGR_CTRL
L_GND
VIN
X100
na
R109
0R
PRODTP7
R101
/2 47R
C106
27p
"MBUS"
VIN 1
L_GND 2
VIN 3
CHRG_CTRL 4
CHRG_CTRL 5
MICP 6
MICN 7
XMIC 8
SGND 9
XEAR 10
MBUS 11
FBUS_RX 12
FBUS_TX 13
L_GND 14
15,16= GND
V100
RSA6.1EN
"MIC2P"
XMIC(2:0)
XEAR(3:0)
"HFCM" 0
"HF" 1
"MIC1P" 1
"MIC1N" 0
MIC(2:0)



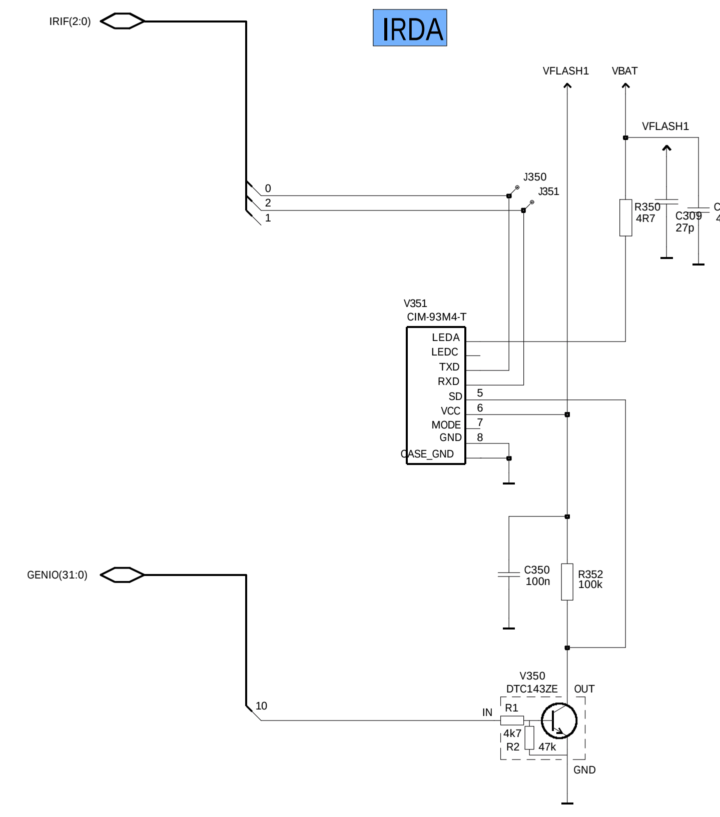
B301
"EARP"
"EARN"
R171
C150
R156
VANA
"MICB1"
R150
100k
V150
PMST6429
C151
1n0
C152
27p
R151
C153
10u_10V
"MIC1P"
C154
R152
10k
"MIC1N"
C155
10n
L155
EXC24CB102U
"MICP"
"MICN"
MIC(2:0)
"ClosetoUEM"
AUDIO(6:0)
R153
C156
VIO
R173
100k
VFLASH1
V153
UM6K1N-TN
R159
R175
15k
HOOKINT
R181
R176
100k
N150
LM4890IBLX
BYPASS
_SHUTDOWN
C179
470p
R179
C158
10u_10V
R183
15R
L150
600R/100MHz
"XEARP"
XEAR(3:0)
"HF"
C177
10n
R177
68k
C180
VBOOM
VBATT1
C159
27p
C181
"HFCM"
C178
R178
R180
C176
1u0
R182
C175
100n
"MICB2"
R162
V151
PMST6429
C160
1n0
"MIC3P"
GND
C161
27p
C162
10u_10V
C170
R163
2k2
R164
HEADINT
C163
100n
"MIC2P"
C164
C165
R167
R165
47k
R166
22k
C172
10n
C167
27p
L168
EXC24CB102U
"XMICP"
"XMICN"
XMIC(2:0)
"MIC2N"
C166
C168
"MIC3N"
HEADINT
HOOKINT
XAUDIO(17:0)
V152
FDG6322C
VFLASH2
R172
330R
VFLASH1
R174
100k
DLR3
GENIO(31:0)



VFLASH1
VBACK
R305
100k
R311
220k
na
"NOT SMD COMPONENT"
G300
3.3V
SLOWAD(6:0)
"KEYB2"
GENIO(31:0)
LCDUI(2:0)
"LCD_RESETX"
"LCDCSX"
"LCD_SDA"
"LCD_CLK"
XRES
XCS
VSS
SDA
SCLK
VDDI
VDD
VOUT
COG LCD 96x65
TCM-A1222-1
H300
VIO
C302
1u0
C303
100n
C304
100n
EMI Filter
Z300
EMIF10-1K010F1
KEYB(5) "R0"
KEYB(6) "R1"
KEYB(7) "R2"
KEYB(8) "R3"
KEYB(9) "R4"
KEYB(10)"R5"
J303
KEYB(0) "S0"
KEYB(1) "S1"
KEYB(2) "S2"
KEYB(3) "S3"
KEYB(4) "S4"
UPP
KEYB(10:0)
"Side Key"
"Send"
"End"
Volumeup
Volume down
S301
S302
S24
S5
"Soft left"
"Up"
"Down"
"Soft right"
S6
S3
S21
S7
"1"
"4"
"7"
"*"
S16
S17
S18
S19
"2"
"5"
"8"
"0"
S12
S13
S14
S15
"3"
"6"
"9"
"#"
S8
S9
S10
S11
"PWRON KEY SWITCH"
S300
PWR
C312
10n
E312
UEM
PWRONX
UIDRV(5:0)
"BUZZER"
"VIBRA"
"CALL_LED"
"DLIGHT"
"KLIGHT"
J305
VBAT
B300
C306
12p
L307
33nH
L308
33nH
M300
KHN4NB1B
C307
10n
C308
1n0
V310
RB521S-30TE61
R307
10R
V311
PUMT1
R306
680R
V300
V301
V302
V303
CL-260WBTR-D-TD
Display LED´s
V312
RB521S-30TE61
R309
22R
V313
PUMT1
R308
680R
V304
V305
V306
V307
V308
V309
CL-260WB-D-TD
Keypad LED´s

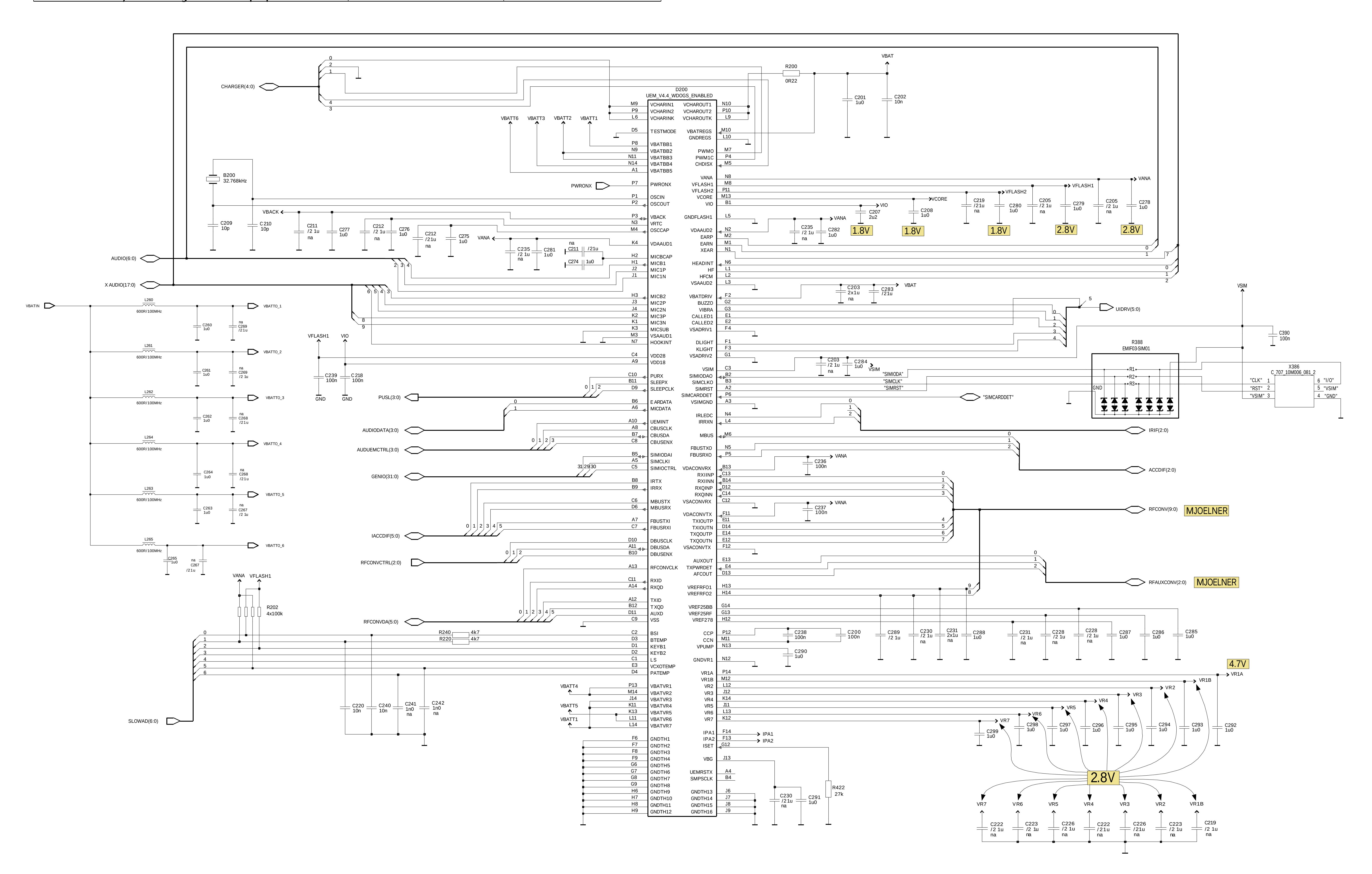


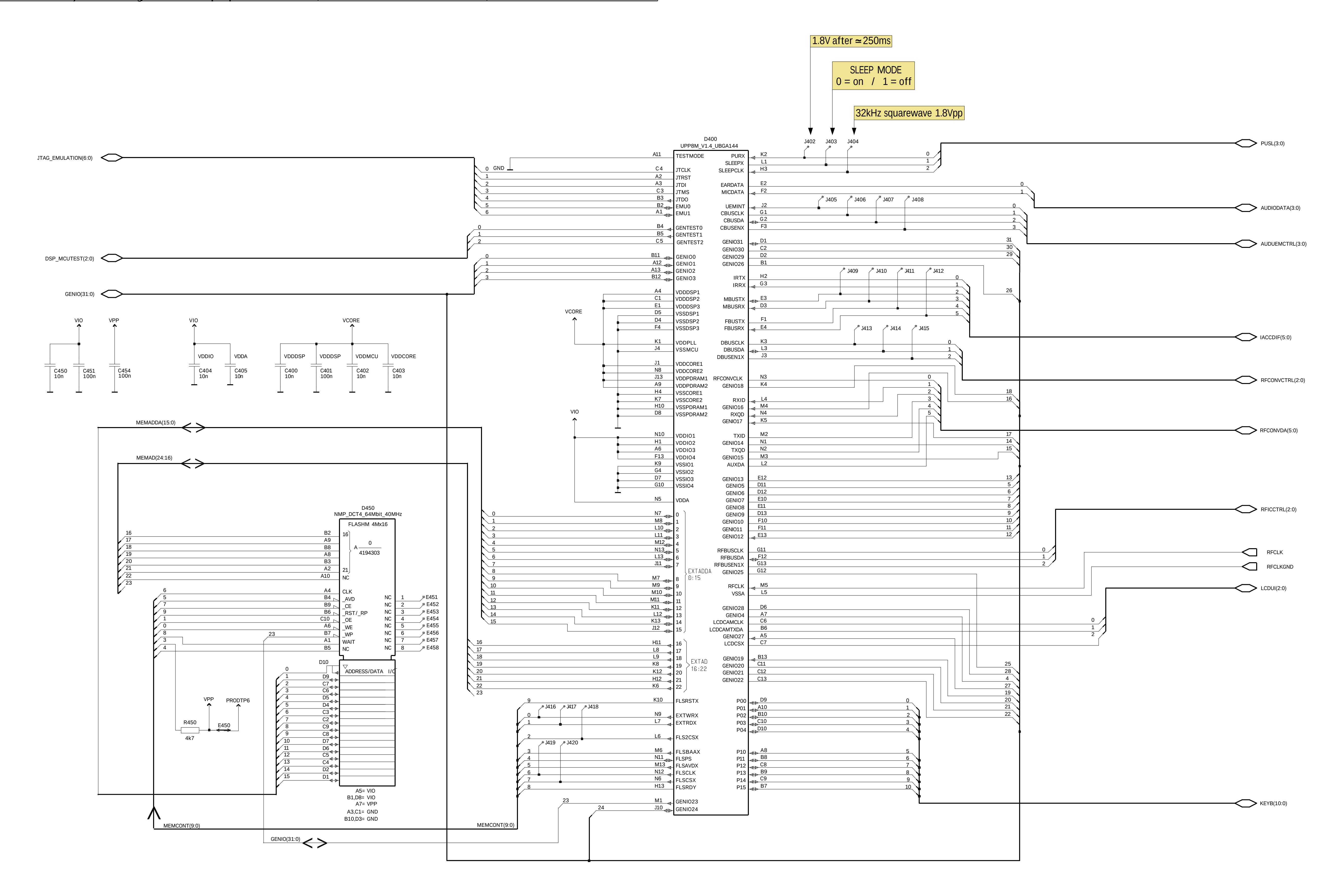
Bluetooth
VFLASH1
L133
600R/100MHz
VBAT
L132
600R/100MHz
C131
C149
1u0
C148
1u0
V130
LRB2_0630271
VREG
VCCXTAL
VCC
ANT
OSCON
RESETX
SLEEPX
VBBEN
EN26MHZ
SLPCLK
SYSCLK
GPP0
GPP1
GPP4
GPP6
GPP7
GPP9
GPP10
GPP11
CENX
TRST
TMS
TDO
TDI
TCK
WRX
VAPPL
VPP
VDD
NC
GND
Ant
J145
VIO
V131
RN4906
4k7
R133
47k
R134
10k
R132
na
0R
PURX
SleepX
SleepClk
PUSL(3:0)
RFClk
LPRFCLK
26MHz
GENIO(31:0)
LPRFSync
LPRFInt
USARTRx
USARTTx
CBUSClk
CBUSDa
CBUSEnX
AUDUEMCTRL(3:0)
J144
J143
J135
J137
J138
J139
J140
J141



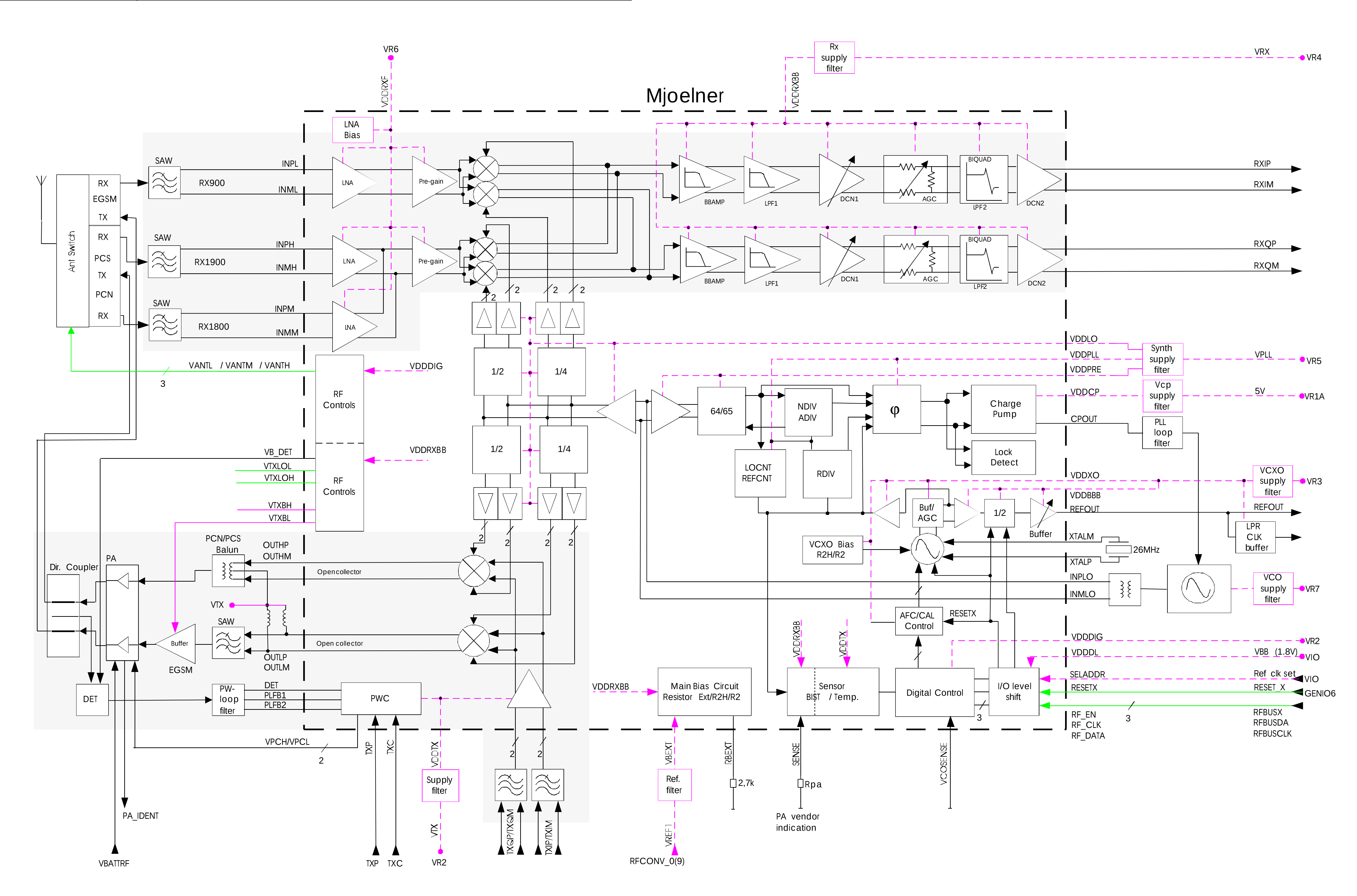
IRDA
IRIF(2:0)
VFLASH1
VBAT
J350
J351
R350
4R7
C309
27p
C351
4u7
V351
CIM-93M4-T
LEDA
LEDC
TXD
RXD
SD
VCC
MODE
GND
CASE_GND
C350
100n
R352
100k
GENIO(31:0)
V350
DTC143ZE
IN
OUT
GND
R1
R2
4k7
47k

NOKIA	CONFIDENTIAL		6(11)
Customer Care Europe & Africa	UEM	Version 4.0 Approved	
SCCE Training Group	NPL-1 (6310i)	(PCB) Version_ac 5 a_10	
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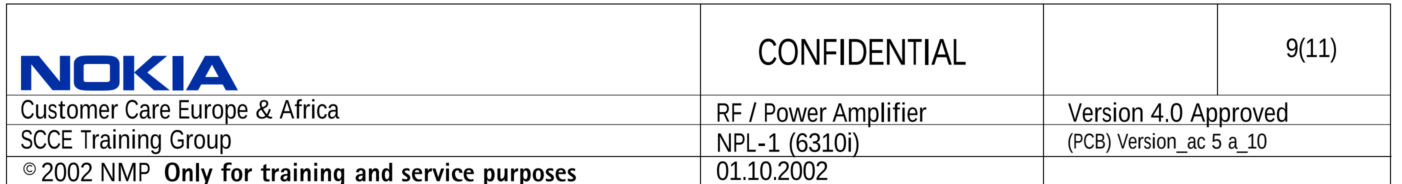




1.8V after ≃250ms
SLEEP MODE
0 = on / 1 = off
32kHz squarewave 1.8Vpp
D400
UPP8M_V1.4_UBGA144
JTAG_EMULATION(6:0)
DSP_MCUTEST(2:0)
GENIO(31:0)
PUSL(3:0)
AUDIODATA(3:0)
AUDUEMCTRL(3:0)
IACCDIF(5:0)
RFCONVCTRL(2:0)
RFCONVDA(5:0)
RFICCTRL(2:0)
RFCLK
RFCLKGND
LCDUI(2:0)
KEYB(10:0)
MEMADDA(15:0)
MEMAD(24:16)
MEMCONT(9:0)
D450
NMP_DCT4_64Mbit_40MHz
FLASHM 4Mx16
ADDRESS/DATA
A5= VIO
B1,D8= VIO
A7= VPP
A3,C1= GND
B10,D3= GND
R450
4k7
E450
VPP
PRODTP6
VIO
VCORE
C450 10n
C451 100n
C454 100n
C404 10n
C405 10n
C400 10n
C401 100n
C402 10n
C403 10n
EXTADDA 0:15
EXTAD 16:22



Mjoelner
VR6
VDDRXF
Rx supply filter
VRX
VR4
VDDRXBB
LNA Bias
SAW
RX900
INPL
INML
LNA
Pre-gain
BBAMP
LPF1
DCN1
AGC
BIQUAD
LPF2
DCN2
RXIP
RXIM
RXQP
RXQM
Ant Switch
RX
EGSM
TX
PCS
PCN
RX1900
INPH
INMH
RX1800
INPM
INMM
VANTL / VANTM / VANTH
VDDDIG
RF Controls
VB_DET
VTXLOL
VTXLOH
VTXBH
VTXBL
VDDRXBB
1/2
1/4
64/65
NDIV ADIV
LOCNT REFCNT
RDIV
φ
Charge Pump
Lock Detect
VDDLO
VDDPLL
VDDPRE
VDDCP
CPOUT
Synth supply filter
VPLL
VR5
Vcp supply filter
5V
VR1A
PLL loop filter
VDDXO
VDDBBB
REFOUT
XTALM
XTALP
INPLO
INMLO
VCXO supply filter
VR3
LPR CLK buffer
26MHz
VCO supply filter
VR7
Buf/ AGC
Buffer
VCXO Bias R2H/R2
AFC/CAL Control
RESETX
VDDDIG
VR2
VDDDL
VBB (1.8V)
VIO
SELADDR
RESETX
RF_EN
RF_CLK
RF_DATA
Ref clk set
RESET X
GENIO6
RFBUSX
RFBUSDA
RFBUSCLK
I/O level shift
Digital Control
Sensor BIST / Temp.
Main Bias Circuit Resistor Ext/R2H/R2
VDDRXBB
VDDTX
VBEXT
Ref. filter
VREF1
RFCONV_0(9)
RBEXT
2,7k
SENSE
Rpa
PA vendor indication
VCOSENSE
PCN/PCS Balun
OUTHP
OUTHM
Opencollector
Open collector
OUTLP
OUTLM
VTX
SAW
Buffer
EGSM
Dir. Coupler
PA
DET
PW-loop filter
DET
PLFB1
PLFB2
PWC
VPCH/VPCL
TXP
TXC
VDDTX
Supply filter
VR2
TXQP/TXQM
TXIP/TXIM
PA_IDENT
VBATTRF



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Customer Care Europe & Africa

SCCE Training Group

RF / Power Amplifier

NPL-1 (6310i)

01.10.2002

Version 4.0 Approved

(PCB) Version_ac 5 a_10

Band	Channel	RX	VCO	TX	VCO
GSM 900	37	942,4MHz	3769,6MHz	897,4MHz	3580,6MHz
GSM 1800	700	1842,8MHz	3685,6MHz	1747,8Mhz	3495,6MHz
GSM 1900	661	1960MHz	3920MHz	1880MHz	3760MHz

CONT1 [Volt]	CONT2 [Volt]	CONT3 [Volt]	EGSM Rx	DCS Rx	PCS Rx	EGSM Tx	DCS/PCS Tx
0	0	0	X				
0	0	0		X			
0	0	2.7				X	
0	2.7	0			X		
2.7	0	0					X

UEM

UPP

Bluetooth

26 Mhz

1) VBD

2) Det Powerlevel 5

3) Det Powerlevel 19

4) VTXB_900

5) VPD_1800 Powerlevel 0

6) VPD_900 Powerlevel 5

7) VPD_900 Powerlevel 19

8) RFBUSCLK

9) RFBUS EN

10) RF BUS DATA

11) LPRFCLK

12) RFCLK

13) CONT 1 / 2 TX 1800/1900

14) CONT 2 RX 1900

15) CONT 3 GSM 900 TX

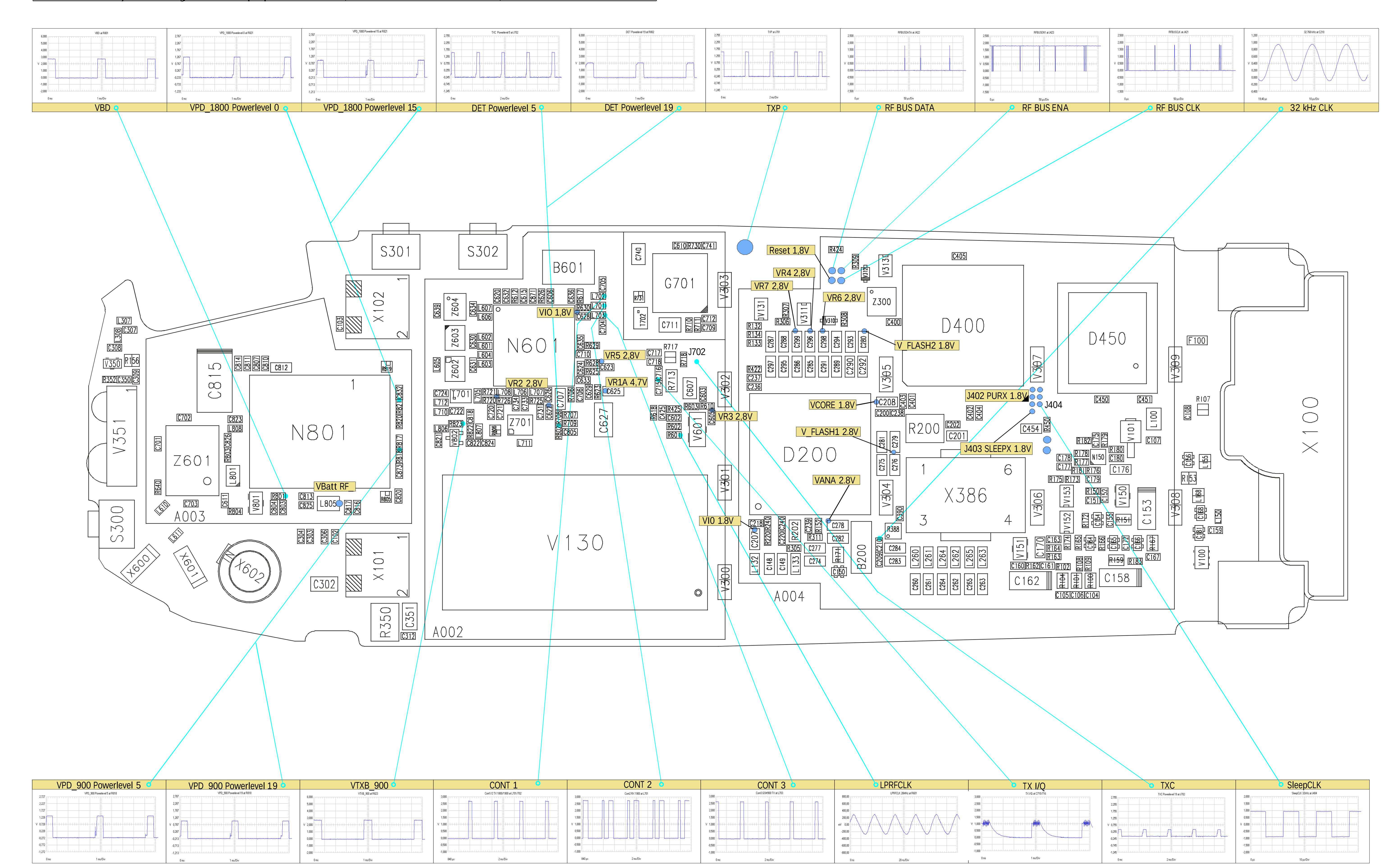
16) TX I/Q

17) TXP

18) TXC Powerlevel 5

19) TXC Powerlevel 19

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Customer Care Europe & Africa	Layout/ measurement points	Version 4.0 Approved	
SCCE Training Group	NPL-1 (6310i)	(PCB) Version_ac 5 a_10	
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B200 – P3	C160 - S2	C202 - R5	C276 - Q4	C296 - O7	C405 - R8	C628 - K7	C712 - M7	C812 - E6	**F100 – W7**	L605 - H6	**N150 – U4**	R163 - T2	R220 - N3	R617 - J8	R725 - J6	**T701 – H6**	V310 - O7	Z604 - H7
B601 - J8	C161 - T2	C207 - N3	C277 - O3	C297 - N6	C425 - L5	C629 - K6	C715 - L6	C813 - E4	**G701 – L8**	L606 - I7	N601 - J7	R164 - T3	R240 - N3	R618 - L5	R726 - I6	T702 - L7	V311 - O7	Z701 - I5
C102 – F3	C162 - S2	C208 - Q6	C278 - P3	C298 - O7	C450 - U6	C630 - H7	C716 - L6	C814 - D6	**L100 – V5**	L607 - I7	N801 - E5	R165 - T3	R305 - O3	R623 - K6	R730 - M9	**V100 – W2**	V312 - P8	
C103 - F7	C163 - T3	C209 - P2	C279 - Q5	C299 - O7	C451 - V6	C631 - H6	C717 - L7	C815 - C6	L132 - N2	L610 - B3	**R100 – U2**	R166 - U3	R306 - O7	R625 - K6	R731 - L8	V101 - U5	V313 - Q8	
C104 - U2	C164 - U3	C210 - P3	C280 - P7	C302 - E2	C454 - T5	C632 - I8	C718 - L6	C816 - F3	L133 - O2	L611 - B3	R101 - T2	R167 - V3	R307 - O7	R626 - J8	R801 - D4	V130 - J3	V350 - A6	
C105 - T2	C165 - U3	C218 - N3	C281 - Q5	C303 - E3	C602 - L5	C633 - K6	C720 - I5	C817 - F3	L150 - W3	L701 - K8	R102 - T2	R171 - P3	R308 - P7	R628 - K6	R802 - J5	V131 - N7	V351 - A5	
C106 - T2	C166 - V3	C220 - O3	C282 - P3	C304 - E3	C603 - M6	C634 - H7	C721 - I5	C818 - H5	L155 - W4	L702 - K8	R104 - T2	R172 - U3	R309 - P8	R629 - K7	R803 - C5	V150 - U4	V601 - M5	
C107 - V5	C167 - V2	C236 - N6	C283 - Q2	C306 - E3	C605 - M5	C635 - J7	C722 - H5	C820 - G4	L168 - W4	L703 - K7	R107 - W5	R173 - T4	R311 - O3	R630 - K7	R804 - D3	V151 - S3	V801 - D4	
C108 - W5	C168 - W3	C237 - N6	C284 - Q3	C307 - A7	C606 - J8	C636 - J8	C724 - H6	C821 - H5	L260 - Q2	L705 - H6	R108 - T2	R174 - T3	R350 - G1	R640 - B4	R805 - G4	V152 - T3	V802 - H5	
C148 - N2	C170 - T3	C238 - Q5	C285 - O6	C308 - A7	C607 - M6	C639 - H7	C731 - J5	C822 - H5	L261 - Q2	L706 - I6	R109 - U2	R175 - T4	R352 - A6	R706 - J6	R806 - I5	V153 - T4	**X100 – X5**	
C149 - O2	C172 - U3	C239 - O3	C286 - O6	C309 - B6	C610 - L9	C701 - B5	C733 - I6	C823 - D5	L262 - R2	L707 - J6	R132 - N7	R176 - U4	R388 - Q3	R707 - J5	R817 - G5	V300 - M2	X101 - F2	
C150 - P2	C175 - U5	C240 - O3	C287 - N7	C312 - G1	C611 - C4	C702 - C5	C734 - I6	C824 - I5	L263 - S2	L708 - I6	R133 - N7	R177 - U4	R422 - N6	R708 - J5	R818 - G4	V301 - M4	X102 - F7	
C151 - U4	C176 - U4	C260 - Q2	C288 - O7	C350 - A6	C615 - I8	C703 - C4	C740 - L9	C825 - E4	L264 - R2	L710 - H5	R134 - N7	R178 - U5	R424 - P9	R709 - J5	R819 - G6	V302 - M6	X386 - R4	
C152 - U4	C177 - T4	C261 - Q2	C289 - P6	C351 - G1	C620 - I8	C704 - K7	C741 - M9	C826 - C5	L265 - R2	L711 - I5	R150 - U4	R179 - U5	R425 - L5	R710 - M7	R820 - G5	V303 - M8	X600 - B2	
C153 - V3	C178 - T4	C262 - R2	C290 - P6	C390 - Q3	C622 - J5	C705 - K8	C803 - E3	C832 - G6	L307 - A7	L712 - H6	R151 - U3	R180 - U5	R450 - T5	R711 - M7	R821 - G5	V304 - Q4	X601 - C2	
C154 - U3	C179 - U4	C263 - S2	C291 - O6	C400 - Q7	C623 - K6	C706 - J6	C804 - D3	C871 - J8	L308 - A7	L801 - D4	R152 - O3	R181 - T4	R601 - L5	R713 - L6	R822 - H5	V305 - Q6	X602 - D2	
C155 - U3	C180 - U4	C264 - R2	C292 - P6	C401 - Q6	C624 - J6	C707 - J6	C805 - J5	C873 - G4	L601 - I7	L805 - E4	R153 - W4	R182 - U5	R602 - L5	R717 - L6	R823 - H5	V306 - T3	**Z300 – Q8**	
C156 - W4	C181 - W3	C265 - R2	C293 - P7	C402 - R5	C625 - K6	C709 - M7	C807 - D6	**D200 – O5**	L602 - I7	L806 - H5	R156 - B6	R183 - V2	R603 - M5	R718 - M6	**S300 – A3**	V307 - T6	Z601 - C4	
C158 - U2	C200 - Q5	C274 - O2	C294 - P7	C403 - Q6	C626 - J6	C710 - K7	C810 - D6	D400 - R7	L603 - I6	L807 - H5	R159 - U2	R200 - Q5	R610 - M6	R720 - I6	S301 - G9	V308 - V3	Z602 - H6	
C159 - W3	C201 - R5	C275 - Q4	C295 - O6	C404 - R5	C627 - K5	C711 - L7	C811 - D6	D450 - U7	L604 - I7	L808 - D5	R162 - T2	R202 - O3	R612 - I8	R721 - I6	S302 - I9	V309 - V6	Z603 - H7	

